



King County Environmental Checklist

May Creek Channel Restoration Project

Purpose of Checklist:

The State Environmental Policy Act (SEPA), chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Use of Checklist for Nonproject Proposals:

Complete this checklist for nonproject proposals, even though questions may be answered "does not apply." IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

A. BACKGROUND

1. *Name of proposed project, if applicable:*

May Creek Drainage Improvement Project (9A1205)

2. *Name of applicant:*

King County Department of Natural Resources and Parks
Water and Land Resources Division

3. *Address and phone number of applicant and contact person:*

201 South Jackson Street, Suite 600
Seattle, WA 98104-3855

Contact: Doug Chin, Project Manager
Phone: (206) 296-8315
Fax: (206) 296-0192
Email: Doug.Chin@kingcounty.gov

4. *Date checklist prepared:*

August 2010

5. *Agency requesting checklist:*

King County Department of Natural Resources and Parks
Water and Land Resources Division

6. *Proposed timing or schedule (including phasing, if applicable):*

The activities described in this checklist are estimated to be completed in the summer of 2011, except for the planting which will be completed during the dormant season (approximately November 2011 to February 2012). The exact project schedule is dependent on when the necessary permits and property owner agreements are obtained.

7. *Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.*

Yes. The *May Creek Basin Action Plan* (King County 2001) and the *May Creek Drainage and Restoration Plan* (GeoEngineers Inc. 2008) make a series of recommendations to reduce flooding and improve habitat in May Valley. These include the removal of channel obstructions such as beaver dams, accumulated sediment, and vegetation choking the channel. This project addresses a subset of

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

the drainage improvements and restoration recommendations in these plans; additional recommended actions may be proposed as future projects.

8. *List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.*

The following documentation has already been prepared and is directly related to this proposal:

- *May Creek Current and Future Conditions Report* (King County and City of Renton 1995)
- *May Creek Basin Action Plan* (King County 2001)
- *May Creek Drainage and Restoration Plan* (GeoEngineers Inc. 2008)
- *May Creek Erosion Stabilization Draft Report – May Creek Sediment Transport Study Phase 3* (Anchor QEA LLC 2010)
- *May Creek Wetland Delineation Report* (King County 2010)
- *May Creek Baseline Stream Conditions* (King County 2010)
- *May Creek Hydraulic Study* (King County 2010)

The following documentation has not yet been finalized for this project:

- May Creek Stream and Wetland Mitigation Plan
- May Creek Detailed Stream Habitat Survey
- Effects Determination for Section 7 of the Endangered Species Act

9. *Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.*

None are known to be pending.

10. *List any government approvals or permits that will be needed for your proposal, if known.*

The following permits will likely be required for this project. The exact list of required permits will be determined based on feedback received from the regulatory agencies.

- U.S. Army Corps of Engineers Section 404 Individual Permit
 - Compliance with Section 7 of the Endangered Species Act
 - Compliance with Section 106 of National Historical Preservation Act
- Washington Department of Ecology 401 Water Quality Certification
- Washington Department of Ecology National Pollutant Discharge Elimination System Permit
- Washington Department of Fish and Wildlife Hydraulic Project Approval
- King County DDES Clearing and Grading Permit
- King County DDES Critical Area Alteration Exception
- City of Renton Grade and Fill Permit
- City of Renton Critical Areas Variance

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

King County's Water and Land Resources Division proposes to improve in-stream flow conditions along segments of May Creek in May Valley between approximately River Mile 4.3 and 4.9. Sediment accumulation and in-stream vegetation (e.g., reed canarygrass and willows) throughout the valley reach of May Creek have been gradually decreasing channel flow capacity, causing a backwater effect. This is increasing the duration of flooding in actively used pastures on adjacent rural residential properties with flood conditions now persisting well into the summer months. The goal of this project is to reduce the duration of flooding on these properties at both the start and end of the rainy season by removing in-stream channel obstructions. This effort should help alleviate the duration of localized flooding on adjacent properties during low to moderate storm events and should allow the pastures to drain more effectively when flooding does occur. Due to the high groundwater table in the May Valley and, because there will be no measureable difference in the geographical extent of flooding, it is not likely that this project will change the amount of wet pasture or wetland in the project vicinity. King County implemented a similar pilot project along 300 linear feet of May Creek in 2002 and, as a result, less overbank flooding now occurs during small storm events along this reach.

This project proposal consists of three components: vegetation removal, sediment removal, and stream/wetland mitigation. The vegetation and sediment removal will negatively impact existing in-stream fish habitat, so mitigation has been proposed to offset these impacts. The mitigation is also designed to improve the longevity of the project by decreasing the opportunity for channel obstructions to form in the future. The project components are described below.

Vegetation Removal: The first component of the project includes removal of flow obstructing in-stream vegetation and debris from specific reaches where it is choking the channel and creating a backwater effect, causing flooding on adjacent properties during small storm events. Invasive reed canarygrass is the dominant vegetation that will be removed from the channel and banks. In addition, willows, located in multiple locations throughout the project area, are currently growing in the middle of the channel, further contributing to the backwater effect. A portion of the willows that are identified as obstructing flow will also be removed. The willows will be primarily removed by hand, but some small, hand-held, mechanized machinery may be used to assist. The reed canarygrass that is growing in the channel will be removed with machinery, most likely a trackhoe, operated from the stream bank. Prior to removal of the reed canarygrass, the stream will be diverted around the construction site and erosion and sediment control best management practices will be used during construction to minimize temporary downstream water quality impacts.

Sediment Removal: Sediment will be removed from the stream channel using machinery, most likely a trackhoe, operated from the stream bank. The stream will be diverted around the construction site and erosion and sediment control best management practices will be used during construction to minimize temporary downstream water quality impacts. Construction techniques, such as utilizing existing access roads or using temporary steel plates (or equivalent) where additional access is needed, will be used to minimize temporary impacts to adjacent wetlands.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

Stream/Wetland Mitigation: The final component of the project includes providing mitigation to avoid, minimize, and compensate for in-stream and wetland habitat impacts as well as implementing measures that will increase the longevity of the project. The following mitigation will be implemented:

- During construction, the stream flow will be diverted around the work area, and in-water work will only be conducted during the summer low flow when fish are less likely to be present. A King County biologist will be onsite during construction to monitor water quality.
- Construction techniques, such as utilizing existing access roads or using temporary steel plates (or equivalent), where additional access is needed, will minimize disturbance to existing vegetation. In addition, direct access to the stream channel by equipment will only be allowed in specific areas where vegetation disturbance can be minimized.
- A buffer of native vegetation (primarily wetland vegetation) will be restored for approximately 15 feet on each side of May Creek from 148th Avenue SE upstream to the eastern end of the project limits for a total of approximately 1.3 acres. This buffer is intended to shade out future reed canarygrass and to compensate for the cover that will be lost by removing flow obstructing willows and reed canarygrass. The native vegetation will be planted in areas where, under existing conditions, virtually no native vegetated buffer exists. In most of the project area, the regulatory stream buffer is contained within the delineated wetland boundary, which means that stream buffer enhancement could also be considered wetland enhancement. Fencing will be installed around the planting areas to minimize livestock access to the newly planted areas and to the stream.
- Wetland enhancement will be performed by removing invasive vegetation within the wetland (mostly reed canarygrass) and replanting approximately 3.75 acres of native wetland vegetation in the open space tract on the west side of 148th Avenue SE. Off-channel alcoves will also be excavated along May Creek within the wetland in this location and large woody debris will be added in the alcoves to partially compensate for the loss of in-stream habitat complexity that will occur as a result of removing flow obstructing vegetation.
- Additional in-stream habitat restoration may occur at the confluence of Long Marsh Creek and May Creek. If implemented, this mitigation will restore fish habitat complexity at the confluence of these two streams. It will also restore the alluvial fan functions by removing the stream from the agricultural ditch and relocating it into a more natural channel, allowing sediment to drop out in Long Marsh Creek prior to reaching May Creek. If King County is unable to reach an agreement with the property owner to perform this mitigation, then similar mitigation will be proposed at another location either in the immediate project area or offsite.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

12. *Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.*

The project is located in May Valley near the cities of Renton and Newcastle (Sections 2 and 3, Township 23N, Range 5E) on the south side of SE May Valley Road. The project area includes the reach of May Creek between approximately River Mile 4.3 (about 0.25 miles downstream of 148th Avenue SE in Renton) and River Mile 4.9. Please see the attached vicinity map.

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. *General description of the site (circle one): flat, rolling, hilly, steep slopes, mountainous, other.*

All of the proposed work will be completed within the May Valley, which is a flat, broad valley with little variation in elevation. The channel through this area has a very low gradient (0.2 percent slope), and as a result is prone to sediment accumulation.

- b. *What is the steepest slope on the site (approximate percent slope)?*

The valley is flat with little variation across the floodplain. On both sides of the valley, the elevations rise quickly, with slopes ranging from 6 to 30 percent.

- c. *What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.*

The U.S. Department of Agriculture National Resources Conservation Service Web Soil Survey (2009) for King County identifies Bellingham silt loam as the primary soil on the valley floor. At the higher elevations, adjacent to the valley, Ragnar-Indianola association and Alderwood gravelly sandy loam are identified. Soil investigations during the wetland survey also found areas with a high concentration of clay.

- d. *Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.*

There is no evidence of surface instability near the subject property.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

- e. *Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.*

The purpose of this project is to remove channel obstructions from May Creek, including accumulated sediment and flow obstructing vegetation. Approximately 4,000 cubic yards of sediment will be excavated from May Creek. The removed sediment will either be disposed of appropriately offsite, or will be spread in an approved area adjacent to the project site in coordination with the property owner and as allowed by regulations and permits.

As mitigation, the project proposes to restore approximately five acres of native vegetation (primarily wetland vegetation adjacent to the stream) through out the project area. This restoration will include shading out reed canarygrass using a sheet mulch treatment, such as cardboard or weed fabric, and replanting with native vegetation. In addition, approximately 76 pieces of large woody debris will be placed throughout the mitigation areas, and approximately 32 cubic yards of streambed gravel will be placed in off-channel alcoves west of 148th Avenue NE. Streambed gravel will also be placed at the potentially restored confluence of Long Marsh Creek and May Creek, but the exact quantity at this location has not been determined yet.

- f. *Could erosion occur as a result of clearing, construction, or use? If so, generally describe.*

During sediment and in-stream vegetation removal, it is anticipated that some amount of sediment will likely be released into the stream. The sediment release will likely occur after in-channel construction work is complete and the diverted stream flow is reintroduced into freshly exposed stream bed and banks.

- g. *About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?*

The project area currently does not contain any impervious surface, and the project will not add any impervious surface.

- h. *Proposed measures to reduce or control erosion, or other impacts to the earth, if any:*

During construction, erosion will be minimized by implementing appropriate sediment and erosion control best management practices. Measures will include a plan to divert flow from the stream reaches where the sediment and in-stream vegetation will be removed. Diverting the stream around the work area will minimize downstream water quality impacts. The plan will also limit all in-stream work to the summer low flow periods. In areas where invasive vegetation is removed from streams banks and replanted with native vegetation, best management practices will be implemented (e.g.,

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

silt fence, coir logs, etc.) to protect the stream during vegetation removal and installation.

In the long-term, restoring a buffer of native vegetation will minimize erosion by providing long-term bank stabilization, while maintaining channel flow capacity. In addition, to determine whether there would be a significant erosion impact downstream as a result of the proposed project, King County assessed the pre-project versus post-project percentage of time (over a 60-year period) that erosive flows would cause gravels to erode in the stream channel. The analysis found that, within the accuracy of the model being used, the percentage of time erosive flows occur is virtually unchanged for pre- versus post-project conditions.

2. Air

- a. *What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, greenhouse gases, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known.*

Construction of the proposed project may generate some dust during the transport of soil and sediment; however, because the material being transported will be originating from the stream channel and wetland, it will likely be moist, and therefore will have less potential to generate dust.

The proposed project, once construction is complete, will emit no gasses with the potential to negatively affect climate change. Construction of the proposed project will use various vehicles and pieces of equipment that emit gasses with the potential to affect climate. These gasses include carbon dioxide (CO₂), methane and nitrous oxide, as well as others in much smaller amounts. The global warming potential (GWP) of these compounds is measured in “carbon dioxide equivalents,” or CO₂e, which converts the GWP of various gasses into their equivalent in CO₂. The amount of CO₂e that may be emitted as a result of constructing the proposed project has been estimated by computing the amount of fuel to be consumed by equipment used to construct the project, both during construction and in transit from King County’s Roads Maintenance Headquarters Shops in Renton, where crews and equipment may originate. The actual origin of equipment will not be known until after a contractor is selected. Fuel consumed is then converted into CO₂e emitted using formulae developed by the Energy Information Administration (EIA) of the U.S. Department of Energy. Using these formulae and estimates, construction of the proposed project will likely result in the discharge of approximately 12 tons of CO₂e to the atmosphere.

- b. *Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.*

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

No.

- c. *Proposed measures to reduce or control emissions or other impacts to air, if any:*

Greenhouse gas emissions will be controlled during construction by enforcing the King County Vehicle Anti-Idling Policy.

In addition, while not specifically proposed as mitigation for greenhouse gas emissions, the emissions will be offset by planting trees and shrubs that are an essential component of the proposed project. Trees and shrubs sequester CO₂ during their growth and thus help to offset emissions of CO₂ to the atmosphere. The EIA has also developed formulae for estimating the rate of carbon sequestration by various types of trees (deciduous or coniferous, fast-, medium-, or slow-growing) at various life stages and these formulae have been used to estimate the carbon sequestration potential of the proposed project.

Approximately 680 trees will be planted during the planting season following construction of the proposed project. At rates calculated using the above method, these plantings should sequester the 12 tons of CO₂e emitted during construction of the proposed project in approximately 6.5 years. These calculations are attached to the checklist.

In addition, construction will be performed in accordance with the regulations of the Puget Sound Clean Air Agency, and Best Management Practices for controlling fugitive dust will be utilized as necessary, and may include covering loads during transport and moistening material before transport.

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3. Water

- a. *Surface:*

- 1) *Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.*

Yes. The proposed project is within or immediately adjacent to May Creek, three small tributaries (Indian Meadow Creek, Long Marsh Creek, Greenes Creek), and one wetland (May Creek #5 in the King County Wetland Inventory).

May Creek and its tributaries are Type F Waters (containing fish or fish habitat) requiring 165 foot buffers under the King County Critical Area Code, and ultimately flow into Lake Washington. Under City of Renton Critical Area Code these streams are considered Class 2 streams (salmonid bearing) and require a 100 foot buffer.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

The May Creek #5 wetland is a large (over 140 acres) riverine wetland that occupies much of the valley floor. Under the King County Critical Area Code this is a Category II wetland with a regulatory buffer of 110 feet. Under the City of Renton Critical Area Code this is a Category 1 wetland with a standard regulatory buffer width of 100 feet.

- 2) *Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.*

Yes. Excess sediment and invasive reed canarygrass will be removed from the stream channel using a trackhoe or similar equipment. Access to these areas may require crossing the floodplain or wetland. Willows that are obstructing flow will also be removed, but primarily by hand.

As mitigation for temporary impacts, any areas that are temporarily disturbed will be restored after construction by planting native vegetation. As mitigation for permanent impacts, a 15-foot buffer of native vegetation (primarily wetland vegetation) will be restored along both sides of the stream bank east of 148th Avenue SE where under existing conditions virtually no native vegetated buffer exists. A fence will be installed to protect the new plantings and to minimize livestock access to the stream. This vegetation will increase shade, add habitat, and minimize the return of the reed canarygrass. On the west side of 148th Avenue SE, approximately 3.75 acres of riverine wetland will be enhanced. Off-channel alcoves with large woody debris will also be constructed on the west side of 148th Avenue SE to enhance fish habitat. In addition, natural alluvial fan functions and fish habitat will be potentially restored either at the confluence of May Creek and Long Marsh Creek or at another location with similar opportunity.

- 3) *Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.*

Approximately 4,000 cubic yards of sediment will be removed from May Creek. The removed sediment will either be disposed of appropriately offsite, or will be spread in an approved pasture area adjacent to the project site in coordination with the property owner and as allowed by regulations and permits.

As part of the mitigation, a sheet mulch treatment (e.g., cardboard or weed fabric) will be placed within the wetland boundary to shade out reed canarygrass and facilitate planting of native vegetation. Some compost may also be imported to facilitate planting, but the exact amount has not been determined yet. In addition, approximately 76 pieces of large woody debris will be placed throughout wetland west of 148th Avenue SE, and approximately 32

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

cubic yards of streambed gravel will be placed near the stream in the off-channel alcoves. Streambed gravel will also be placed at the potentially restored confluence of Long Marsh Creek and May Creek, but the exact quantity at this location has not been determined yet.

- 4) *Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.*

During the sediment and in-stream vegetation removal, the stream will be temporarily diverted around the work area as part of a temporary erosion and sediment control plan. This diversion may involve using one or more gas-powered pumps to remove water from the channel just upstream of the work area. The water will then be discharged downstream of the work area. Any additional water that seeps into the construction work area may also be removed with a pump as needed. The stream diversion may require fish removal and relocation. All fish removal and relocations will be done by a King County biologist using hand-netting or other accepted methods. No other surface or groundwater will be withdrawn or diverted.

- 5) *Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.*

Yes. The project area lies within the 100-year floodplain for May Creek.

- 6) *Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.*

No waste material will be discharged to surface or groundwater.

b. *Ground:*

- 1) *Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.*

No. This project will not withdraw from or discharge to groundwater.

- 2) *Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.*

No waste material will be generated or discharged into the ground.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

c. Water runoff (including stormwater):

- 1) *Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.*

Any areas that are temporarily disturbed during construction have the potential to generate sediment-laden stormwater runoff. Temporary erosion and sediment control best management practices, such as silt fences, turbidity curtains, or coir logs, will be used to prevent sediment-laden stormwater runoff from entering the stream or wetlands. As needed, additional best management practices may include collecting sediment-laden stormwater before it enters the stream or wetland and discharging the stormwater into a vegetated upland location instead. Water quality monitoring will be conducted during construction to ensure that state water quality standards are met. If water quality standards are exceeded, additional best management practices will be implemented to protect water quality.

- 2) *Could waste materials enter ground or surface waters? If so, generally describe.*

No. All sediment excavated from the stream will be disposed of at an approved offsite location, or will be spread in an approved location adjacent to the project site in coordination with the property owners and as allowed by regulations and permits. It will not be allowed to enter ground or surface waters.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

During construction, temporary erosion and sediment control best management practices, such as silt fences, turbidity curtains, or coir logs, will be used to prevent any material or runoff from entering ground or surface water during construction. Construction equipment access will also be limited to specific locations along the stream, which will minimize disturbance to existing vegetation.

In the long-term, the purpose of this project is to reduce the duration of flooding in May Valley at both the start and end of the rainy season by removing in-stream channel obstructions. This effort should help alleviate the duration of localized flooding on adjacent properties during low to moderate storm events. The project hydraulic analysis found that the potential for erosion downstream of May Valley is virtually unchanged for the pre- versus post-project conditions.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

4. Plants

a. Check or circle types of vegetation found on the site:

- ☒ Deciduous Tree: alder, cottonwood, Oregon ash, maple, aspen, other - cherry
- ☒ Evergreen Tree: fir, cedar, pine, other - spruce
- ☒ Shrubs: willow, dogwood, hardhack, Indian plum
- ☒ Grass: reed canarygrass
- ☒ Pasture: various grasses
- ☐ Crop or Grain:
- ☒ Wet Soil Plants: cattail, buttercup, soft rush, bulrush, skunk cabbage, other - horsetail
- ☐ Water Plants: water lily, eelgrass, milfoil, other
- ☒ Other types of vegetation: blackberry

b. What kind and amount of vegetation will be removed or altered?

Approximately 3,000 square feet of reed canarygrass will be removed from the stream banks. Approximately 5,500 square feet of flow obstructing willows will also be removed from the stream channel to improve flow conditions. In addition, approximately five acres of reed canarygrass will be removed adjacent to the channel and in the wetland and will be replanted with native vegetation. This reed canarygrass will be removed by placing a sheet mulch treatment, such as cardboard or weed fabric, over the grass to shade out the grass over multiple growing seasons. The native vegetation will be planted through this treatment.

c. List threatened or endangered plant species known to be on or near the site.

No threatened or endangered plant species are currently known to be on or near the project site; however, historically, threatened or endangered plant species were known to exist in the area. According to the Washington Department of Natural Resources Washington Natural Heritage Program Database (June 2009), Tall Bugbane (*Cimicifuga elata*) existed historically in the project area but is not likely to be present any longer because it typically grows along the margins of mature or old growth stands of coniferous or mixed coniferous-deciduous forest. This type of habitat no longer exists in the project area. In addition, Tall Bugbane was not identified in the project study area during any of the wetland or stream surveys which spanned multiple days in January, February, and August 2010.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

- d. *Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:*

This project proposes to enhance five acres of native vegetation along the stream corridor and in the wetland. Invasive reed canarygrass will be removed along the stream and in the wetland, and the area will be replanted with native vegetation.

5. Animals

- a. *Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:*

- ☒ Birds: hawk, heron, eagle, songbirds, other: ducks
☒ Mammals: deer, bear, elk, beaver, other: coyote
☒ Fish: bass, salmon, trout, herring, shellfish, other

- b. *List any threatened or endangered species known to be on or near the site.*

Terrestrial Species

Red-tailed hawks (*Buteo jamaicensis*), bald eagles (*Haliaeetus leucocephalus*), and great blue herons (*Ardea herodias*) have been observed traveling through the project area; however, according to the Washington Department of Fish and Wildlife Priority Habitat and Species Database (June 2009) there are no documented or known nesting sites associated with these species in the project area. Great blue herons and bald eagles are both species of concern in Washington State (WDFW 2010), but are not threatened or endangered.

Aquatic Species

Historically, May Creek supported five species of salmonids: Chinook (*Oncorhynchus tshawytscha*), sockeye (*O. nerka*), and coho (*O. kisutch*) salmon, as well as rainbow/steelhead (*O. mykiss*) and cutthroat (*O. clarki*) trout (King County 1995). Salmon still use May Creek and its tributaries even though their numbers have decreased (King County 1995).

Chinook and sockeye salmon are found in the lower reaches of May Creek and in May Canyon; but they most likely do not travel upstream into May Valley as far as the project area (King County 1995). Both of these species are species of concern in Washington State (WDFW 2010), and Chinook salmon is listed as threatened under the federal Endangered Species Act.

Coho salmon and rainbow/steelhead and cutthroat trout rear in May Valley and use it as a travel corridor to upstream spawning habitat in the North Fork, Cabbage and Country Creeks, and Tributary 0291A (King County 1995). Under the federal Endangered

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

Species Act, steelhead are listed as a threatened species, and coho salmon are a species of concern.

In addition, the Lake Washington Basin contains spawning populations of the federally-listed threatened bull trout (*Salvelinus confluentus*), but no spawning populations have been confirmed in the part of the basin where the project is located (WDFW 1998, 2004a). Furthermore, it is unlikely bull trout will be present in May Creek due to a lack of suitable habitat.

Under the federal Endangered Species Act, no designated or proposed critical habitat for Chinook salmon, steelhead, or bull trout is located within the project area.

An effects determination for species protected under Section 7 of the Endangered Species Act will be completed in coordination with the appropriate federal agencies during the permitting process. This determination will analyze potential impacts to listed species resulting from the project.

c. Is the site part of a migration route? If so, explain.

Yes. Anadromous fish, including coho salmon, rainbow/steelhead and cutthroat trout, use the May Valley as a migration corridor to upstream spawning habitat.

Most of the large valleys in King County, including May Valley, comprise a portion of the Pacific Flyway used by waterfowl and other migratory bird species during spring and fall migration.

d. Proposed measures to preserve or enhance wildlife, if any:

Best management practices will be utilized during construction to minimize potential impacts to listed species. For example, in-water construction work will be completed during the summer low flow work window that is designated to protect listed aquatic species. Species are unlikely to be present in the project area during the designated summer work window. Temporary erosion and sediment control measures (discussed in section 3.c above), including a stream diversion, will also be implemented to protect water quality. The stream diversion may require fish removal and relocation. All fish removal and relocations will be done by a King County biologist using hand-netting or other accepted methods.

In the long-term, this project will enhance fish and wildlife habitat in May Valley by restoring approximately five acres of native wetland and riparian vegetation, adding large woody debris to off-channel alcoves, and potentially restoring fish habitat and alluvial fan functions at the confluence of Long Marsh Creek and May Creek. This will increase the complexity and diversity of habitat available in the project area.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

6. Energy and Natural Resources

- a. *What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.*

None. The completed project will not require any energy.

- b. *Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.*

No.

- c. *What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:*

None are proposed.

7. Environmental Health

- a. *Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.*

No toxic chemical or hazardous waste will be used or generated by this project.

- 1) *Describe special emergency services that might be required.*

None.

- 2) *Proposed measures to reduce or control environmental health hazards, if any:*

Maintenance and refueling of construction equipment will occur outside of the stream, wetland, and buffer areas.

- b. *Noise*

- 1) *What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?*

Some minor traffic noise from adjacent roads is expected, but it will have no effect on construction or on the completed project.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

- 2) *What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.*

During construction, equipment operation will temporarily increase noise levels in the vicinity. Construction equipment may produce temporary noise levels as high as 90 decibels. The completed project will not change existing noise levels.

- 3) *Proposed measures to reduce or control noise impacts, if any:*

Construction activities will comply with provisions of the King County Noise Ordinance (Ordinance No. 3139). Equipment operation will be limited to the hours of 7 a.m. and 7 p.m., Monday through Friday.

8. Land and Shoreline Use

- a. *What is the current use of the site and adjacent properties?*

The current use of the site is a combination of rural residential with small farms and undeveloped open space. The small farms in the project area primarily consist of pastures that are utilized by horses.

- b. *Has the site been used for agriculture? If so, describe.*

Yes. May Valley supports pasture and low-intensity agriculture uses, small farms, and scattered single-family residences; however, the project area is not located in an Agriculture Production District. Historically, May Valley was probably more extensively utilized for agriculture production; however, under existing conditions the pastures in the project area are primarily utilized only by horses.

- c. *Describe any structures on the site.*

The adjacent properties contain single-family homes, barns, and other out-buildings. None of these structures will be affected by construction of the proposed project.

- d. *Will any structures be demolished? If so, what?*

No.

- e. *What is the current zoning classification of the site?*

The current zoning classification is RA-5 and RA-10, rural residential with future development limited to rural uses with maximum densities of one house per five acres and ten acres, respectively.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

- f. What is the current comprehensive plan designation of the site?*

The current comprehensive plan designation is rural residential.

- g. If applicable, what is the current shoreline master program designation of the site?*

Not applicable. May Creek is not a Shoreline of the State in the project area and therefore, is not regulated under the King County Shoreline Master Program.

- h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.*

Yes. The proposed project will occur in and adjacent to May Creek and its tributaries, which are Type F Waters (contains fish or fish habitat) under the King County Critical Area Code. The proposed project is also located in the 100-year floodplain for May Creek. In addition, a large Category II Wetland (May Creek #5) covers a large percentage of the May Valley floor. The proposed work will all occur within the stream, wetland, buffers, and floodplain of May Creek.

- i. Approximately how many people would reside or work in the completed project?*

None.

- j. Approximately how many people would the completed project displace?*

None.

- k. Proposed measures to avoid or reduce displacement impacts, if any:*

Does not apply.

- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:*

One of the project goals is to reduce the duration of flooding on properties adjacent to May Creek. Reducing floodwaters on these properties will facilitate the continued use of these properties as single-family homes with small farms.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

9. Housing

- a. *Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.*

Does not apply.

- b. *Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.*

Does not apply.

- c. *Proposed measures to reduce or control housing impacts, if any:*

Does not apply.

10. Aesthetics

- a. *What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?*

Does not apply. No buildings or structures will be constructed.

- b. *What views in the immediate vicinity would be altered or obstructed?*

None.

- c. *Proposed measures to reduce or control aesthetic impacts, if any:*

Does not apply.

11. Light and Glare

- a. *What type of light or glare will the proposal produce? What time of day would it mainly occur?*

None.

- b. *Could light or glare from the finished project be a safety hazard or interfere with views?*

No.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

- c. *What existing off-site sources of light or glare may affect your proposal?*

None.

- d. *Proposed measures to reduce or control light and glare impacts, if any:*

Does not apply.

12. Recreation

- a. *What designated and informal recreational opportunities are in the immediate vicinity?*

Recreational opportunities in the immediate project area are limited; however, they could include fishing, hiking, bicycling, and/or bird watching. Within a couple of miles of the project area, the King County Cougar Mountain Park and the Squak Mountain State Park together provide over 5,000 acres of public land with trails for hiking and horseback riding.

- b. *Would the proposed project displace any existing recreational uses? If so, describe.*

No. All of the proposed work will occur on private property and will not affect recreational opportunities or access.

- c. *Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:*

No measures proposed.

13. Historic and Cultural Preservation

- a. *Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.*

The Washington State Department of Archaeology and Historic Preservation and the King County Cultural Resource Protection Project databases were checked on March 1, 2010. No listed or proposed historic properties or archaeological sites were found in the project vicinity.

- b. *Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.*

None are known to be present.

- c. *Proposed measures to reduce or control impacts, if any:*

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

Because there are not any listed or proposed archaeological or historic resources in the project area, no mitigation is being proposed. If, archaeological or historic resources are uncovered or encountered during project construction, work will cease immediately, and appropriate steps necessary to protect those resources will be taken before construction resumes. If resources are discovered, the Washington State Department of Archaeology and Historic Preservation, the King County Historic Preservation Program, and any affected federally recognized tribes will be notified immediately, and an on-site inspection will be conducted by a professional archaeologist and other qualified resource professionals. A mitigation plan would then be prepared before resuming construction at the site of discovery, if necessary.

In addition, the measures and the possibility of uncovering materials of archaeological or historic significance near inland waters will be discussed during a preconstruction conference with the construction crew/contractor before performing the work on-site.

14. Transportation

- a. *Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.*

Access to the site will be from properties located on SE May Valley Road or 148th Avenue SE.

- b. *Is site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?*

Does not apply.

- c. *How many parking spaces would the completed project have? How many would the project eliminate?*

Does not apply.

- d. *Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).*

No new roads will be required.

- e. *Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.*

No.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

- f. How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.*

None.

- g. Proposed measures to reduce or control transportation impacts, if any:*

Does not apply.

15. Public Services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.*

No.

- b. Proposed measures to reduce or control direct impacts on public services, if any.*

Does not apply.

16. Utilities

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.*

Does not apply.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.*

Does not apply.

KING COUNTY ENVIRONMENTAL CHECKLIST

May Creek Drainage Improvement Project

C. SIGNATURE

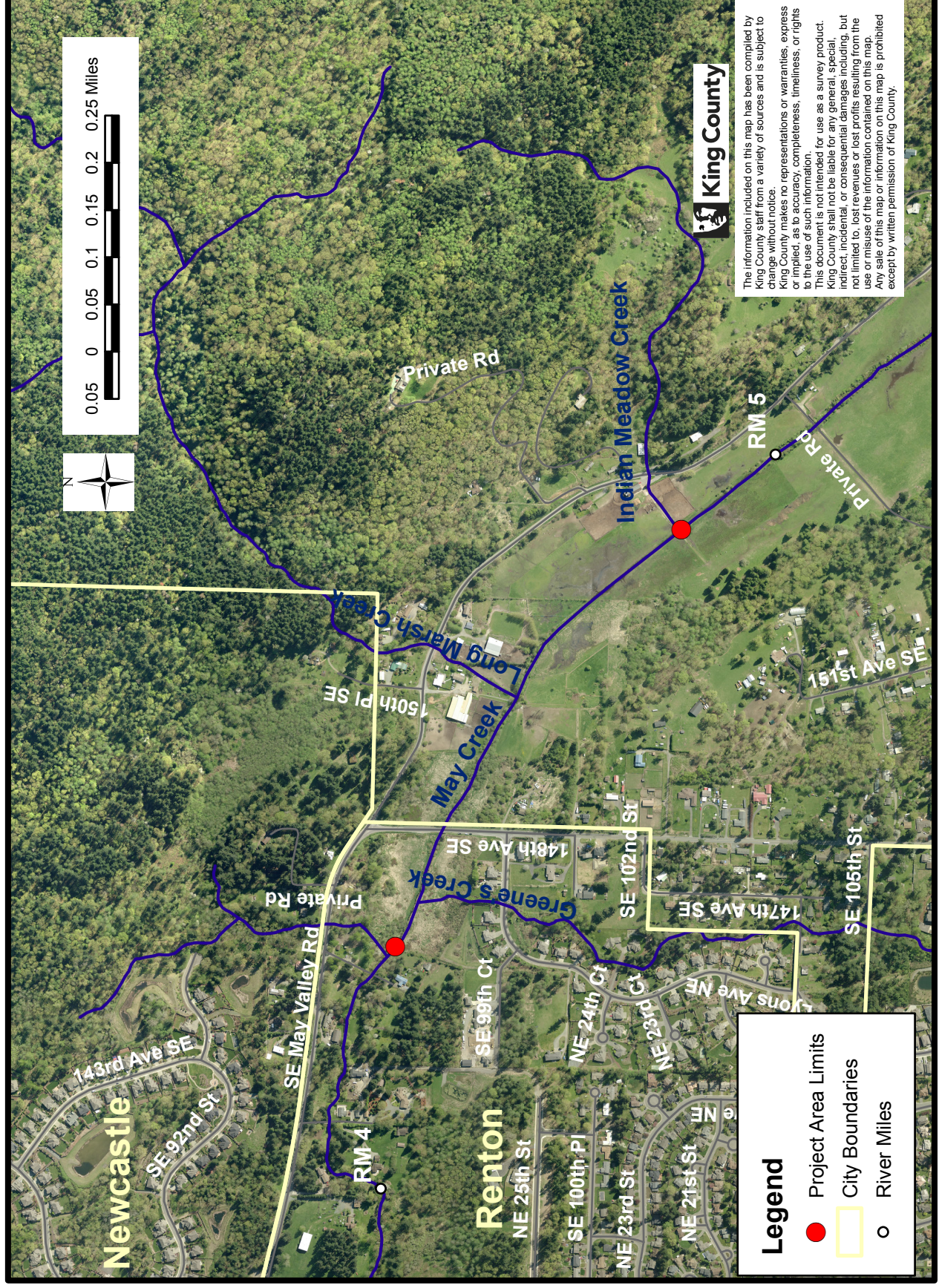
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: Wally Archuleta
Name: Wally Archuleta, P.E.
Title: Managing Engineer, Department of Transportation, Road Services Division, Environmental Unit
Date: 9/2/10

The following are included with the Checklist if checked off:

- ☒ Vicinity Map
- ☒ Greenhouse Gas Worksheet
- ☐ Project Plans

May Creek Drainage Improvement Project (9A1205)



Greenhouse Gas (GHG) Emissions Worksheet

Project Name: May Creek Drainage Improvement Project (9A1205)

Note: The finished project will emit no GHGs aside from those occurring in the environment by natural processes. All emissions are therefore related to construction of the proposed project.

Distance of project site from Renton Shops, where most daily construction-related vehicle trips will start and end: 3.75 miles

Estimated days of construction activity:

Vehicle	Miles/ hours	Rate (mpg or gal/hr*)	Fuel Used	Em. Coef. (lbs CO ₂ e/ gal)	Emissions (lbs CO ₂ e)	Tons CO ₂ e
Pickup	40	20.7	1.93	19.564	37.80	0.02
Pickup	40	20.7	1.93	19.564	37.80	0.02
Dump Truck	160	6.15	26.02	22.384	582.35	0.29
Dump Truck	160	6.15	26.02	22.384	582.35	0.29
PC 120 Trackhoe	160	6.3	1008.00	22.384	22563.07	11.28
Heavy Equip Transport	40	1.9	21.05	22.384	471.24	0.24
Log Truck	16	1.9	8.42	22.384	188.50	0.09
TOTAL:					24463.12	12.23

Carbon Sequestration

Approximately 680 trees will be planted as part of this project. Of these, 340 as classified as fast-growing hardwoods, and the remaining 340 as moderate-growing conifers. The carbon sequestration rates of these trees was calculated using data tables from the U.S. Department of Energy, Energy Information Administration.

Using these data tables, the proposed plantings (assuming an 80% survival rate) will sequester **10.9 tons of carbon after 6 years and 14.0 tons after 7 years.**